What is Claimed:

1. A spinnerette assembly for forming one or more hollow fibers comprising:

at least one extrusion orifice formed in said spinnerette assembly;

a hollow needle extending through each said extrusion orifice in a concentric manner to define an annular passage around said needle in said extrusion orifice;

a bore forming fluid passage communicating with the interior of each said needle; and

at least one fiber-forming material passage formed in said spinnerette assembly, wherein each said fiber-forming material passage comprises a fiber-forming material inlet port extending from a surface of said assembly to an interior of said assembly and at least one transverse passage extending from said fiber-forming material port to each said annular passage.

2. A spinnerette assembly as recited in claim 1, wherein said transverse passage is a backcut portion of said fiber-forming material passage that entirely surrounds said needle in a continuous manner and is in communication with said extrusion orifice.

3. A spinnerette assembly as recited in claim 1, wherein each said fiber-forming material port extends substantially parallel to said extrusion orifice and said transverse passage extends substantially perpendicular to said fiber-forming material port.

4. A spinnerette assembly as recited in claim 1, wherein said spinnerette assembly comprises a spinnerette body and a bottom plate.

5. A spinnerette assembly as recited in claim 4, comprising at least one needle affixed in a needle mounting hole formed in said spinnerette body and receiving a portion of each said needle.

6. A spinnerette assembly as recited in claim 4 wherein each said needle mounting hole is in communication with a bore forming fluid inlet port at a surface of said spinnerette body via a bore forming fluid passage.

7. A spinnerette as recited in claim 6, wherein said bore forming fluid passage comprises a first bore forming fluid conduit coaxial with said needle and in communication with said needle and a second bore forming fluid conduit that extends at an angle with respect to said first bore forming fluid conduit from said bore forming fluid conduit to a surface of said spinnerette body.

8. A spinnerette assembly as recited in claim 4, wherein said extrusion orifice extends through portions of said spinnerette body and said bottom plate.

9. A spinnerette assembly as recited in claim 4, wherein said fiber-forming material passage is formed in said spinnerette body.

10. A spinnerette assembly as recited in claim 1 comprising multiple transverse passages and extrusion orifices for each fiber-forming material port.

11. A method for forming a composite hollow fiber comprising the steps of:

delivering a fiber-forming material to each annular passage in a spinnerette assembly, said fiber-forming material entering said spinnerette assembly through one or more fiber-forming material inlet ports and passing through the interior of said

assembly to a transverse passage, a portion of said transverse passage entirely surrounding each needle in a continuous manner, and through an annular passage in communication with an extrusion orifice;

extruding the fiber-forming material through the extrusion orifice and around each said needle and injecting a bore forming fluid into each needle to thereby provide a fiber comprising a bore forming fluid situated in the center of said fiber-forming material as it exits the spinnerette assembly through the extrusion orifice;

optionally passing the nascent extruded hollow fiber through an air gap; and

solidifying the hollow fiber by cooling, solvent evaporation, or solvent extraction.